In The Claims:

Please amend claims 48, 58, 62, 66, 70, 76, 80, 84, 94, 98-100, 102, 106 and 107, as provided below in the associated claim listing on separate sheets:

48. (Currently amended) An apparatus for imaging at least a portion of a sample, comprising:

a first interferometric arrangement providing an electro-magnetic radiation; and

a second arrangement configured to receive the electro-magnetic radiation, and configured to generate a resultant electro-magnetic intensity distribution,

wherein, along a particular direction, the intensity distribution is approximately constant for at least a predetermined distance<u>, and wherein a wavelength of the electro-magnetic radiation remains approximately the same for at least the predetermined distance at which the intensity distribution is approximately constant</u>.

49. (Previously presented) The apparatus according to claim 48, wherein the second arrangement is an optical arrangement which is configured to optically image the sample.

50. (Previously presented) The apparatus according to claim 48, wherein the second arrangement is an axicon lens.

51. (Previously presented) The apparatus according to claim 48, wherein the second arrangement is a defractive optical element.

52. (Previously presented) The apparatus according to claim 48, wherein the second arrangement is an annulus.

53. (Previously presented) The apparatus according to claim 48, wherein the second arrangement includes a combination of a diffractive element and a lens.

54. (Previously presented) The apparatus according to claim 48, wherein the second arrangement includes at least one of an apodized lens or a diffractive element.

55. (Previously presented) The apparatus according to claim 48, wherein the intensity distribution is a Bessel beam.

56. (Previously presented) The apparatus according to claim 48, further comprising a third arrangement adapted to cooperate with the second arrangement so as to translate at least one of the intensity distribution and the sample.

57. (Previously presented) The apparatus according to claim 56, wherein the translation of the at least one of the intensity distribution and the sample produces an image which has 2 or more dimensions.

58. (Currently amended) The apparatus according to claim 48, wherein the intensity distribution <u>having a transverse resolution of a</u> full width at half maximum is less than 10μm.

59. (Previously presented) The apparatus according to claim 48, wherein the predetermined distance is at least 50μm.

60. (Previously presented) The apparatus according to claim 48, wherein at least a portion of the intensity distribution includes a non-Gaussian distribution.

61. (Previously presented) The apparatus according to claim 48, further comprising a fourth arrangement configured to received information that is associated with the intensity distribution, and display an image based on the received information.

62. (Currently Amended) An apparatus for imaging at least a portion of a sample, comprising:

a first interferometric arrangement providing an electro-magnetic radiation; and

a second arrangement configured to receive the electro-magnetic radiation, and configured to generate a resultant electro-magnetic intensity distribution,

wherein, along a particular direction, widths of at least two sections of the intensity distribution are approximately the same, and wherein a wavelength of the electro-magnetic radiation remains approximately the same for at least the at least two sections of the intensity distribution.

63. (Previously presented) The apparatus according to claim 62, wherein the particular direction is approximately a vertical direction.

64. (Previously presented) The apparatus according to claim 62, wherein the second arrangement includes a plurality of lenses.

65. (Previously presented) The apparatus according to claim 62, wherein one of the sections is at least partially above another one of the sections.

66. (Currently amended) The apparatus according to claim 62, wherein the intensity distribution <u>having a transverse resolution of a</u> full width at half maximum is less than 10μm.

67. (Previously presented) The apparatus according to claim 62, wherein at least a portion of the intensity distribution includes a non-Gaussian distribution.

68. (Previously presented) The apparatus according to claim 67, wherein a translation of the at least one of the intensity distribution or the sample produces an image which has 2 or more dimensions.

69. (Previously presented) The apparatus according to claim 62, further comprising a third arrangement adapted to cooperate with the second arrangement so as to translate at least one of the intensity distribution and the sample.

70. (Currently amended) A method for imaging at least a portion of a sample, comprising:

a) providing an electro-magnetic radiation using an interferometric arrangement;

b) receiving the electro-magnetic radiation and generating a resultant electro-magnetic intensity distribution, wherein, along a particular direction, the intensity distribution is approximately constant for at least a predetermined distance, and wherein a wavelength of the electro-magnetic radiation remains approximately the same for at least the predetermined distance at which the intensity distribution is approximately constant.

71. (Previously presented) The method according to claim 70, wherein step (b) is performed using an optical arrangement which is configured to optically image the sample.

72. (Previously presented) The method according to claim 70, wherein step (b) is performed using an axicon lens.

73. (Previously presented) The method according to claim 70, wherein step (b) is performed using a defractive optical element.

74. (Previously presented) The method according to claim 70, wherein step (b) is performed using an annulus.

75. (Previously presented) The method according to claim 70, wherein step (b) is performed using a combination of a diffractive element and a lens.

76. (Currently amended) The method according to claim 70, wherein step (b) is performed using at least one of ~~of~~ an apodized lens or a diffractive element.

77. (Previously presented) The method according to claim 70, wherein the intensity distribution is a Bessel beam.

78. (Previously presented) The method according to claim 70, further comprising translating at least one of the intensity distribution and the sample.

79. (Previously presented) The method according to claim 78, wherein the translation of the at least one of the intensity distribution and the sample produces an image which has 2 or more dimensions.

80. (Currently amended) The method according to claim 70, wherein the intensity distribution having a transverse resolution of a full width at half maximum is less than 10μm.

81. (Previously presented) The method according to claim 70, wherein the predetermined distance is at least 50μm.

82. (Previously presented) The method according to claim 70, wherein at least a portion of the intensity distribution includes a non-Gaussian distribution.

83. (Previously presented) The method according to claim 70, further comprising the steps of receiving information that is associated with the intensity distribution; and displaying an image based on the received information.

84. (Currently amended) A method for imaging at least a portion of a sample, comprising:

providing an electro-magnetic radiation using an interferometric arrangement; and

receiving the electro-magnetic radiation, and generating a resultant electro-magnetic intensity distribution, wherein, along a particular direction, widths of at least two sections of the intensity distribution are approximately the same, and wherein a wavelength of the electro-magnetic radiation remains approximately the same for at least the at least two sections of the intensity distribution.

85. (Previously presented) The method according to claim 84, wherein step (b) is performed using an optical arrangement which is configured to optically image the sample.

86. (Previously presented) The method according to claim 84, wherein step (b) is performed using an axicon lens.

87. (Previously presented) The method according to claim 84, wherein step (b) is performed using a defractive optical element.

88. (Previously presented) The method according to claim 84, wherein step (b) is performed using an annulus.

89. (Previously presented) The method according to claim 84, wherein step (b) is performed using a combination of a diffractive element and a lens.

90. (Previously presented) The method according to claim 84, wherein step (b) is performed using at least one of an apodized lens or a diffractive element.

91. (Previously presented) The method according to claim 84, wherein the intensity distribution is a Bessel beam.

92. (Previously presented) The method according to claim 84, further comprising translating at least one of the intensity distribution and the sample.

93. (Previously presented) The method according to claim 84, wherein the translation of the at least one of the intensity distribution and the sample produces an image which has 2 or more dimensions.

94. (Currently amended) The method according to claim 84, wherein the intensity distribution <u>having a transverse resolution of a</u> full width at half maximum is less than 10μm.

95. (Previously presented) The method according to claim 84, wherein the predetermined distance is at least 50μm.

96. (Previously presented) The method according to claim 84, wherein at least a portion of the intensity distribution includes a non-Gaussian distribution.

97. (Previously presented) The method according to claim 84, further comprising the steps of receiving information that is associated with the intensity distribution; and displaying an image based on the received information.

98. (Currently amended) An apparatus for imaging at least a portion of a sample, comprising:

a first interferometric arrangement providing an electro-magnetic radiation; and

a second arrangement provided within the first interferometric arrangement and configured to receive the electro-magnetic radiation, and configured to generate a resultant electro-magnetic intensity distribution,

wherein the second arrangement including a third arrangement which is configured to at least partially block at least one first portion of the electro-magnetic radiation, the third arrangement allowing at least one second portion of the electro-magnetic radiation to be ~~is~~ provided in a center of the electro-magnetic radiation to pass there through.

99. (Currently amended) The apparatus according to claim 98~~48~~, wherein the third arrangement is a masking arrangement which includes a section in a center thereof which allows the at least one second portion to pass there through.

100. (Currently amended) An apparatus for imaging at least a portion of a sample, comprising:

a first interferometric arrangement providing an electro-magnetic radiation; and

a second arrangement configured to receive the electro-magnetic radiation, and configured to generate a resultant electro-magnetic intensity distribution,

wherein, along a particular direction, a plurality of focal points of the intensity distribution are generated<u>, and</u>

<u>wherein a wavelength of the electro-magnetic radiation remains approximately the same along the particular direction for the focal points</u>.

101. (Previously presented) The apparatus according to claim 100, wherein, along a particular direction, the intensity distribution is approximately constant for at least a predetermined distance

102. (Currently amended) The apparatus according to claim <u>100</u>~~62~~, wherein the second arrangement includes a plurality of transceiver channels.

103. (Previously presented) The apparatus according to claim 102, wherein each of the channels is situated in an individual waveguide.

104. (Previously presented) The apparatus according to claim 103, wherein at least one of the waveguides is a optical fiber.

105. (Previously presented) The apparatus according to claim 103, wherein the second arrangement includes a plurality of lens, each of the lens being in an optical communication with a separate one of the waveguides.

106. (Currently amended) A method for imaging at least a portion of a sample, comprising:

a) providing an electro-magnetic radiation using an interferometric arrangement;

b) at a further arrangement that is provided within the first interferometric arrangement, receiving the electro-magnetic radiation and generating a resultant electro-magnetic intensity distribution, wherein at least one first portion of the electro-magnetic radiation is at least partially blocked by a particular arrangement, and wherein at least one second portion of the electro-magnetic radiation provided in a center of the electro-magnetic radiation is allowed to pass through the particular arrangement.

107. (Currently amended) A method for imaging at least a portion of a sample, comprising:

providing an electro-magnetic radiation using an interferometric arrangement; and

receiving the electro-magnetic radiation, and generating a resultant electro-magnetic intensity distribution, wherein, along a particular direction, a plurality of focal points of the intensity distribution are generated, and wherein a wavelength of the electro-magnetic radiation remains approximately the same along the particular direction for the focal points.